

# INTERNATIONAL SEARCH REPORT

In **International Application No**  
**PCT/GB2004/001398**

**A. CLASSIFICATION OF SUBJECT MATTER**  
IPC 7 C12N1/20 C12R1/01 A61K35/74

According to International Patent Classification (IPC) or to both national classification and IPC

**B. FIELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbols)  
IPC 7 C12N C12R A61K

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, BIOSIS, EMBASE, PAJ, WPI Data, CHEM ABS Data

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	BOURRIAUD C ET AL.: "Butyrate production from lactate by human colonic microflora" REPROD NUTR DEV, vol. 42, 2002, page S55, XP009035389 cited in the application abstract	1-5, 10-22
X	GIBSON G R ET AL: "OCCURRENCE OF SULFATE-REDUCING BACTERIA IN HUMAN FECES AND THE RELATIONSHIP OF DISSIMILATORY SULFATE REDUCTION TO METHANOGENESIS IN THE LARGE GUT" JOURNAL OF APPLIED BACTERIOLOGY, vol. 65, no. 2, 1988, pages 103-112, XP009035388 ISSN: 0021-8847 the whole document table 1	1-5, 10-22

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☒ Further documents are listed in the continuation of box C.

☐ Patent family members are listed in annex.

**\* Special categories of cited documents:**

- \*A\* document defining the general state of the art which is not considered to be of particular relevance
- \*E\* earlier document but published on or after the international filing date
- \*L\* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- \*O\* document referring to an oral disclosure, use, exhibition or other means
- \*P\* document published prior to the international filing date but later than the priority date claimed

- \*T\* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- \*X\* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- \*Y\* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- \*Z\* document member of the same patent family

Date of the actual completion of the international search

25 August 2004

Date of mailing of the international search report

07/09/2004

Name and mailing address of the ISA

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## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	<p>HOLD GEORGINA L ET AL: "Assessment of microbial diversity in human colonic samples by 16S rDNA sequence analysis" FEMS MICROBIOLOGY ECOLOGY, vol. 39, no. 1, January 2002 (2002-01), pages 33-39, XP002293314 ISSN: 0168-6496 cited in the application the whole document table 1 &amp; DATABASE EMBL "clone HuCA15" retrieved from EBI Database accession no. AJ408968 abstract &amp; DATABASE EMBL "clone HuCB26" retrieved from EBI Database accession no. AJ409000 abstract &amp; DATABASE EMBL "isolate HuCC15" retrieved from EBI Database accession no. AJ315482 abstract &amp; DATABASE EMBL "clone HuCA20" retrieved from EBI Database accession no. AJ408972 abstract</p>	9-22
X	<p>----- BARCENILLA A ET AL: "Phylogenetic relationships of butyrate-producing bacteria from the human gut." APPLIED AND ENVIRONMENTAL MICROBIOLOGY, APR 2000, vol. 66, no. 4, April 2000 (2000-04), pages 1654-1661, XP002293315 ISSN: 0099-2240 cited in the application the whole document table 4 &amp; DATABASE EMBL "Butyrate-producing bacterium L2-7" retrieved from EBI Database accession no. AJ270490 abstract</p>	9-22
X	<p>----- ZOETENDAL E G ET AL: "Temperature gradient gel electrophoresis analysis of 16S rRNA from human fecal samples reveals stable and host-specific communities of active bacteria." APPLIED AND ENVIRONMENTAL MICROBIOLOGY, OCT 1998, vol. 64, no. 10, October 1998 (1998-10), pages 3854-3859, XP002909919 ISSN: 0099-2240 the whole document -/--</p>	9-22

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Int lional Application No  
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## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	<p>&amp; DATABASE EMBL "bacterium A07" retrieved from EBI Database accession no. AF052409 abstract</p> <p>-----</p> <p>LESER THOMAS D ET AL: "Culture-independent analysis of gut bacteria: the pig gastrointestinal tract microbiota revisited." APPLIED AND ENVIRONMENTAL MICROBIOLOGY. FEB 2002, vol. 68, no. 2, February 2002 (2002-02), pages 673-690, XP002293316 ISSN: 0099-2240 the whole document &amp; DATABASE EMBL "clone p-2001-s959-5" retrieved from EBI Database accession no. AF371658 abstract &amp; DATABASE EMBL "clone p-2566-9F5" retrieved from EBI Database accession no. AF371660 abstract &amp; DATABASE EMBL "clone p-197-o5" retrieved from EBI Database accession no. AF371659 abstract</p>	9-22
X	<p>-----</p> <p>ZHU XIANG Y ET AL: "16S rRNA-based analysis of microbiota from the cecum of broiler chickens." APPLIED AND ENVIRONMENTAL MICROBIOLOGY. JAN 2002, vol. 68, no. 1, January 2002 (2002-01), pages 124-137, XP002293317 ISSN: 0099-2240 the whole document &amp; DATABASE EMBL "bacterium cknem327-B6-72" retrieved from EBI Database accession no. AF376231 abstract</p>	9-22
X	<p>-----</p> <p>SUAU A ET AL: "Direct analysis of genes encoding 16S rRNA from complex communities reveals many novel molecular species within the human gut." APPLIED AND ENVIRONMENTAL MICROBIOLOGY. NOV 1999, vol. 65, no. 11, November 1999 (1999-11), pages 4799-4807, XP002293318 ISSN: 0099-2240 cited in the application the whole document figures 1-5</p> <p style="text-align: center;">-/--</p>	9-22

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## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
P,X	<p>&amp; DATABASE EMBL "bacterium adhufec25" retrieved from EBI Database accession no. AF132254 abstract</p> <p>-----</p> <p>LOUIS PETRA ET AL: "Restricted distribution of the butyrate kinase pathway among butyrate-producing bacteria from the human colon." JOURNAL OF BACTERIOLOGY. APR 2004, vol. 186, no. 7, April 2004 (2004-04), pages 2099-2106, XP009035429 ISSN: 0021-9193 the whole document table 1 &amp; DATABASE EMBL "Butyrate-producing bacterium GM2/1" retrieved from EBI Database accession no. AY305315 abstract &amp; DATABASE EMBL "Butyrate-producing bacterium SS3/4" retrieved from EBI Database accession no. AY305316 abstract &amp; DATABASE EMBL "Butyrate-producing bacterium SL6/1/1" retrieved from EBI Database accession no. AY305317 abstract &amp; DATABASE EMBL "Butyrate-producing bacterium SM6/1" retrieved from EBI Database accession no. AY305318 abstract &amp; DATABASE EMBL "butyrate-producing bacterium SS2/1" retrieved from EBI Database accession no. AY305319 abstract &amp; DATABASE EMBL "Butyrate-producing bacterium SSC/2" retrieved from EBI Database accession no. AY305320 abstract</p> <p>-----</p>	9-22

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national application No.  
PCT/GB2004/001398

## Box II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☒ Claims Nos.:  
because they relate to subject matter not required to be searched by this Authority, namely:  
Although claims 12-18 are directed to a method of treatment of the human/animal body, the search has been carried out and based on the alleged effects of the compound/composition.
2. ☐ Claims Nos.:  
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
3. ☐ Claims Nos.:  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

## Box III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.